

(19)

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 084 688 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.08.2001 Bulletin 2001/33

(51) Int Cl.7: **A61F 13/495**, A61F 13/494

(43) Date of publication A2:
21.03.2001 Bulletin 2001/12

(21) Application number: **00307951.4**

(22) Date of filing: **13.09.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• Mishima, Yoshitaka, c/o Technical Center
Mitoyo-gun, Kagawa-ken 769-1602 (JP)
• Tanji, Hiroyuki, c/o Technical Center
Mitoyo-gun, Kagawa-ken 769-1602 (JP)

(30) Priority: **16.09.1999 JP 26217099**

(74) Representative: **Parry, Christopher Stephen
Saunders & Dolleymore,
9 Rickmansworth Road
Watford, Herts. WD18 0JU (GB)**

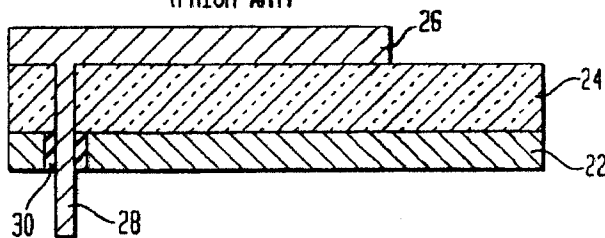
(71) Applicant: **UNI-CHARM CORPORATION
Kawanoe-shi Ehime-ken (JP)**

(54) **Disposable diaper**

(57) A diaper having an absorbent body 1 including a topsheet 2, a backsheet 3, a core 4 disposed there-between and a first liquid-barrier wall 5 lying in a rear half section 1e of the body 1 and extending above an upper surface of the topsheet 2 so as to define a first opening 8 in a substantially central zone of the first liquid-barrier wall, and the body 1 further includes a sec-

ond liquid-barrier wall 6 lying in a front half section 1d of the body 1 in one-behind-another relationship with the first liquid-barrier wall 5 so as to define a second opening 9 in a substantially central zone of the second liquid-barrier wall 6 so that urine discharged into the second opening 9 may be absorbed by the core 4 through the topsheet 2 and feces discharged into the first opening 8 may be absorbed by the core 4 through the topsheet 2.

FIG. 1
(PRIOR ART)



EP 1 084 688 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 30 7951

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|---|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| P, X | WO 99 65436 A (GUSTAFSSON ANDERS ; SCA HYGIENE PROD AB (SE)) 23 December 1999 (1999-12-23) * page 7, line 13 - line 20 * * figures 6,8-10 * | 1,6 | A61F13/495 A61F13/494 |
| X | EP 0 908 162 A (UNI CHARM CORP) 14 April 1999 (1999-04-14) * column 3, line 19 - column 4, line 22 * * figures 1-5 * | 1,6 | |
| A | | 2,3,5,7 | |
| X | WO 98 53779 A (MOELNLYCKE AB ; JOENBRINK ANNA KARIN (SE)) 3 December 1998 (1998-12-03) * page 9, line 9 - page 12, line 24 * * figures 1-14 * | 1,6 | |
| X | GB 2 297 565 A (MOELNLYCKE AB) 7 August 1996 (1996-08-07) * page 9, line 30 - page 11, line 4 * * figures 10-12 * | 1,6 | |
| A | | 5 | TECHNICAL FIELDS SEARCHED (Int.Cl.7) |
| A | EP 0 615 737 A (UNI CHARM CORP) 21 September 1994 (1994-09-21) * column 3, line 2 - column 4, line 32 * * figures 1-3 * | 1,6 | A61F |
| A | US 5 904 674 A (BONJOUR EMMANUEL) 18 May 1999 (1999-05-18) * column 3, line 57 - column 4, line 67 * * figures 1-3 * | 2,7 | |
| A | WO 97 17920 A (MOELNLYCKE AB ; EITERJORD BAARD (SE)) 22 May 1997 (1997-05-22) * the whole document * | 2,7 | |
| The present search report has been drawn up for all claims | | | |
| Place of search THE HAGUE | | Date of completion of the search 20 June 2001 | Examiner Joly, F |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |

EPO FORM 1503 03 92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 7951

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-06-2001

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| WO 9965436 A | 23-12-1999 | SE 511017 C | 19-07-1999 |
| | | SE 9802166 A | 19-07-1999 |
| EP 0908162 A | 14-04-1999 | JP 11113958 A | 27-04-1999 |
| | | AU 8833398 A | 29-04-1999 |
| | | BR 9804175 A | 07-12-1999 |
| | | CA 2249782 A | 08-04-1999 |
| | | CN 1214235 A | 21-04-1999 |
| | | TW 410599 Y | 01-11-2000 |
| WO 9853779 A | 03-12-1998 | SE 512766 C | 08-05-2000 |
| | | AU 7679898 A | 30-12-1998 |
| | | EP 1017345 A | 12-07-2000 |
| | | PL 336985 A | 31-07-2000 |
| | | SE 9701983 A | 27-11-1998 |
| | | TR 9902912 T | 21-07-2000 |
| GB 2297565 A | 07-08-1996 | SE 508630 C | 19-10-1998 |
| | | AU 703265 B | 25-03-1999 |
| | | AU 4681596 A | 21-08-1996 |
| | | CZ 9702407 A | 13-05-1998 |
| | | EP 0955978 A | 17-11-1999 |
| | | GB 2323101 A,B | 16-09-1998 |
| | | IL 116832 A | 01-06-2000 |
| | | JP 10513069 T | 15-12-1998 |
| | | NZ 301401 A | 23-12-1998 |
| | | PL 321515 A | 08-12-1997 |
| | | SE 9500384 A | 03-08-1996 |
| | | WO 9623464 A | 08-08-1996 |
| | | SK 102597 A | 04-03-1998 |
| | | TR 9700746 T | 21-01-1998 |
| | | ZA 9600756 A | 15-08-1996 |
| EP 0615737 A | 21-09-1994 | JP 3012423 B | 21-02-2000 |
| | | JP 6254116 A | 13-09-1994 |
| | | AU 674192 B | 12-12-1996 |
| | | AU 5637394 A | 08-09-1994 |
| | | CA 2116642 A,C | 06-09-1994 |
| | | CN 2196477 U | 10-05-1995 |
| | | DE 69411053 D | 23-07-1998 |
| | | DE 69411053 T | 15-10-1998 |
| | | ES 2117980 T | 01-09-1998 |
| | | GB 2275611 A,B | 07-09-1994 |
| | | KR 138488 Y | 01-04-1999 |
| | | US 5417680 A | 23-05-1995 |

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 7951

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-06-2001

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| US 5904674 A | 18-05-1999 | FR 2729561 A | 26-07-1996 |
| | | DE 69607322 D | 27-04-2000 |
| | | DE 69607322 T | 27-07-2000 |
| | | EP 0805665 A | 12-11-1997 |
| | | WO 9622755 A | 01-08-1996 |
| | | JP 11501826 T | 16-02-1999 |
| | | PL 321467 A | 08-12-1997 |
| | | SK 98397 A | 04-03-1998 |
| WO 9717920 A | 22-05-1997 | SE 508312 C | 21-09-1998 |
| | | EP 0957864 A | 24-11-1999 |
| | | JP 2000500050 T | 11-01-2000 |
| | | SE 9504074 A | 17-05-1997 |

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82